

Manuale d'uso e manutenzione

Use and maintenance manual



ARMADIO REFRIGERATO
REFRIGERATED CABINET

PROFESSIONAL

ROLL-IN / THROUGH

PASTRY - ICE

Thank you for choosing this product.

Please read the warnings contained in this manual carefully, as they provide important information regarding safe operation and maintenance.

Make sure to keep this manual for any future reference by the various operators.

In some parts of the manual, the  symbol appears, indicating an important warning that must be observed for safety purposes.

CHAPTER 1 BOUNDARY CHARACTERISTICS OF OPERATION

The refrigerated cabinet has been designed and built to operate in optimal conditions at temperatures of up to +10°C and +38°C (+43°C for tropicalized models), with adequate air circulation. In places with characteristics that are different from the requirements, the stated performance cannot be guaranteed.

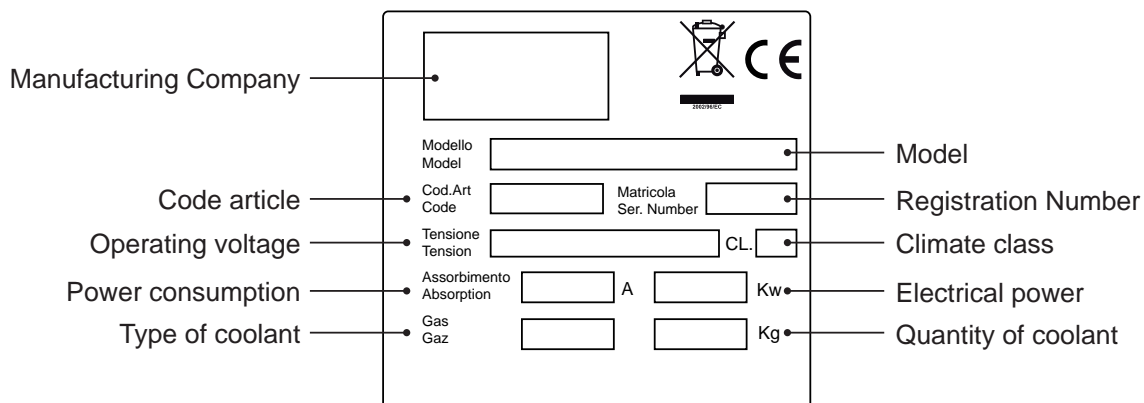
The supply voltage must be 230V +/- 10% 50Hz as standard, or as indicated on the EC label.

The refrigerated cabinet may only be used within the temperature limits specified by the manufacturer; to identify the correct operating range, read the letters after the last digit of the model shown on the EC label and compare it with the table below:

Serie	Temperature
TNV	+2° +10°C
TNBV	-2° +10°C
BTV	-10° -22°C / 10° -25°C (PASTRY ICE)
BTST	- 12° - 25°C
TNS PE	-5° +5°C

The refrigerated cabinet complies with the European directives as described in detail in the Annex “**EC Declaration of Conformity**”

The data are reported on the EC label placed in the refrigerated cabinet, inside the engine compartment.



The manufacturer declines any liability for improper use of the refrigerated cabinet, as well as use that could not have been reasonably foreseen, and for all operations performed on it that disregard the instructions described in this manual.

The main general safety standards are listed below:

- do not use or place electrical devices inside the refrigerated compartments if they are not of the type recommended by the manufacturer
- do not touch the refrigerated cabinet with damp or wet hands or feet
- do not use the refrigerated cabinet barefoot
- do not insert screwdrivers or other objects between the guards or moving parts
- do not pull the power cord to unplug the refrigerated cabinet from the electricity network
- the refrigerated cabinet is not intended to be used by persons (including children) with physical or mental problems, or lack of experience and knowledge, unless they are controlled or instructed in using the unit by a person responsible for their safety. Children must be supervised to ensure that they do not play with the appliance.
- before carrying out any cleaning or maintenance, disconnect the refrigerated cabinet from the mains power supply by turning off the main switch and pulling the plug
- in the event of failure and/or malfunction of the refrigerated cabinet, turn it off and to refrain from any attempt to repair or intervene directly. It is necessary to exclusively contact a qualified technician.

The refrigerated cabinet is composed of a modular monocoque coated with different materials and insulated with polyurethane foam of density 42 kg/m³.

In the design and construction, all measures have been adopted to ensure a refrigerated cabinet that complies with safety and hygiene requirements, such as: rounded interior corners, deep drawing with drain on the outside for the condensate liquids, no rough surfaces, fixed guards on moving or dangerous parts.

The products must be stored in observance of the load limits given in the table, in order to ensure an efficient circulation of air inside the refrigerated cabinet.

Load limit expressed in Kg.			
Grille 650x530	20	Sheet Metal Baking Trays 800x600	10
Grille 550x530	20	Sheet Metal Baking Trays 400x600	8
Grille 525x600	25	Stainless Steel Tray GN 1/1	15
Grille 480x580	15	Stainless Steel Tray GN 2/1	20
Grille 480x480	12	Stainless Steel Basin Inox GN 1/1	15
Grille 400x600	20	Stainless Steel Basin Inox GN 2/1	20
Wire basket 640x530	20	Plastic Basin GN 1/1	10
Wire basket 528x530	20	Plastic Basin for Fish	10
Drawers 530x610	25	Stainless Steel Basin for Fish	15



The installation must be performed exclusively by a qualified technician

1.1 It is prohibited to remove the guards and safety devices

It is absolutely forbidden to remove safety guards.

The manufacturer disclaims any liability for accidents due to failure to comply with this obligation.

1.2 Information on emergency operations in the event of fire

- disconnect the refrigerated cabinet from the electrical outlet or cut off the main power supply
- do not use water jets
- use dry chemical or CO2 extinguishers

CHAPTER 2 CLEANING THE REFRIGERATOR

Since the refrigerated cabinet will be used to store food, cleaning is necessary for hygiene and health protection purposes. The cleaning of the refrigerated cabinet has already been carried out at the factory. It is suggested, however, to carry out an additional cleaning of the internal parts before use, making sure that the power cord is unplugged.

2.1 Cleaning the interior and exterior cabinet

For this purpose the following are indicated

- the cleaning products: water and mild, non-abrasive detergents. **DO NOT USE SOLVENTS AND THINNERS**
- methods for cleaning: wash the interior and exterior parts with warm water and mild soap or with a cloth or sponge with suitable products
- disinfection: avoid substances that can alter the organoleptic characteristics of the food
- rinsing: cloth or sponge soaked in warm water. **DO NOT USE WATER JETS**
- frequency: weekly is recommended, the user can set different frequencies depending on the type of food being stored.



REMARK : Clean frequently the door seals.

Some preserved products could release some enzymes that could damage the seals causing its quick deterioration.

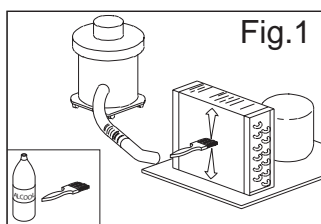
For the cleaning, use only specific products for this purposes, available also on request on our sales network.

2.2 Cleaning the condenser

The efficiency of the refrigerated cabinet is compromised by the clogging of the condenser, therefore it is necessary to clean it on a monthly basis. Before carrying out this operation, switch off the refrigerated cabinet, unplug the power cord and proceed as follows:

Motor below - open the front control panel by unscrewing the screws and making it rotate on the hinges located below.

Motor on top - for models with non-folding front panel, climb up on a safe ladder and go directly to the condenser placed on top of the refrigerated cabinet.



With the aid of a jet of air or dry brush, eliminate, in a vertical movement (Fig. 1), the dust and lint deposited on the fins. In the case of greasy deposits, we recommend using a brush moistened with special cleaning agents. For models with hinged front, loosen the locking screw and rotate the front panel on the hinges located at the top. At this point, proceed to clean as done with the models with fixed front panel.

When the operation is completed, restart the refrigerated cabinet.



During this operation, use the following personal protective equipment: goggles, respiratory protection mask, chemically resistant gloves (gasoline-alcohol).

CHAPTER 3 PERIODIC CHECKS TO BE CARRIED OUT

The following are the points or units of the refrigerated cabinet that require periodic checks:

- integrity and efficiency of door seals
- integrity of the grilles in contact with food
- integrity of the fixing hinges of the doors
- integrity of the power cord

3.1 PRECAUTIONS IN CASE OF LONG PERIODS OF INACTIVITY

A long period of inactivity is defined as a stoppage of more than 15 days.

It is necessary to proceed as follows:

- switch off the refrigerated cabinet and disconnect it from the power supply
- carry out a thorough cleaning of the interior cabinet, shelves, trays, guides and supports, paying special attention to critical points such as the joints and magnetic gaskets, as indicated in Chapter 2.
- leave the door partly open to prevent air stagnation and residual humidity

CHAPTER 4 PREVENTIVE MAINTENANCE**4.1 Restarting after a long period of inactivity**

Restarting after long inactivity is an event that requires preventive maintenance.

It is necessary to perform a thorough cleaning as described in chapter 2.

4.2 Control of the warning and control devices

We recommend that you contact your dealer for a service or maintenance contract that includes:

- cleaning of the condenser
- verification of the coolant load
- verification of the full cycle operation
- electrical safety

**CHAPTER 5 EXTRAORDINARY MAINTENANCE AND REPAIR**

All maintenance activities that have not been described in previous chapters are considered "Extraordinary Maintenance." Extraordinary maintenance and repair are tasks reserved exclusively to the specialist personnel authorized by the manufacturer.

No liability is accepted for actions carried out by the user, by unauthorized personnel, or with the use of non-original replacement parts.

CHAPTER 6 TROUBLESHOOTING

Problems may occur, in the refrigerated cabinet, identified as shown in the table:

TROUBLE DESCRIPTION	POSSIBLE CAUSES	HOW TO REPAIR IT
the refrigerated cabinet does not turn on	no power supply	check the plug, socket, fuses, line
	other	contact technical support
the refrigeration unit does not start	the set temperature has been reached	set new temperature
	defrosting in progress	wait until the end of cycle / turn power off and on again
	command panel failed	contact technical support
	other	contact technical support
the refrigeration unit runs continuously but does not reach the set temperature	location is too hot	aerate more
	condenser is dirty	clean the condenser
	insufficient coolant	contact technical support
	stop the condenser fan	contact technical support
	insufficient sealing of doors	check the seals / provision of goods
	evaporator completely frosted	manual defrosting
	other	contact technical support
the refrigeration unit does not stop at the set temperature	command panel failed	contact technical support
	P1 temperature sensor failed	contact technical support
block of ice on the evaporator	misuse	see chapter 1.
	defrost heater fault	contact technical support
	defrost probe P2 damaged	contact technical support
accumulation of water or ice in the drip tray	drain clogged	clean the pipette and the drain
	refrigerated cabinet is not level	check levelling

CHAPTER 7 INSTRUCTIONS FOR REQUESTING ASSISTANCE

For any technical problem, and any requests for assistance or service, you must exclusively contact your own dealer.

CHAPTER 8 SAFETY AND ACCIDENT PREVENTION

The refrigerated cabinet has been built with suitable measures to ensure the safety and health of the user.

The following are the measures taken to protect against mechanical risks:

- **stability:** The refrigerated cabinet, even with the grilles removed, has been designed and built in such a way that under the intended operating conditions, its stability is suitable for use without risk of overturning, falling or unexpected movement

- **surfaces, edges, corners:** the accessible parts of the refrigerated cabinet are, within the limits allowed by their functions, free of sharp angles and sharp edges, as well as rough surfaces likely to cause injury

- **moving parts:** were designed, constructed and arranged to avoid risks. Certain parts are equipped with fixed guards so as to prevent risks of contact which may result in injury

The following are the measures taken to protect against other risks:

- **electricity:** The refrigerated cabinet has been designed, built and equipped so as to prevent risks from electricity, in accordance with the specific legislation in force
- **noise:** The refrigerated cabinet has been designed and built in such a way that risks resulting from the emission of airborne noise are reduced to the minimum level

8.1 safety devices adopted

It is absolutely forbidden (Fig. 2) :

- to tamper with or remove the evaporator housing casing that protects the user against the risk of being cut by the evaporator fins
- remove the labels applied at the inner edge of the engine compartment, showing the technical specifications (1) and the instructions for grounding (2)
- remove the label applied on the evaporator guard and near the electrical wiring inside the engine compartment, which warns the user to turn off the power supply before working on the unit (3)
- to remove the labels applied inside the engine compartment, indicating grounding (4)
- to remove the label applied on the power cord, indicating the type of power supply (5)

The manufacturer declines any responsibility for the safety of the refrigerated cabinet if this were to happen.

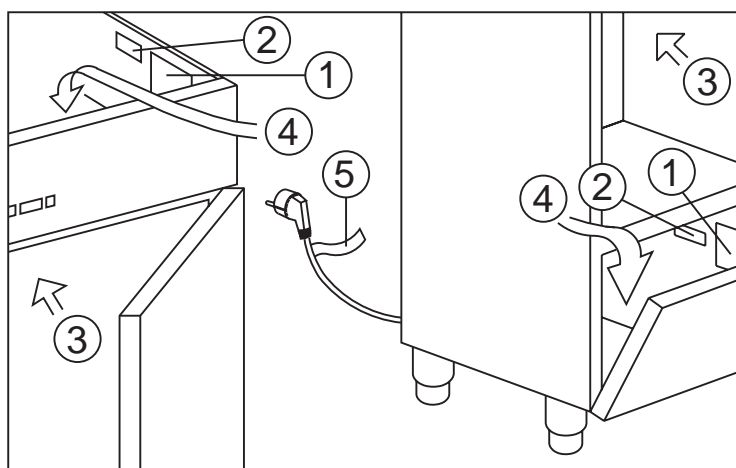


Fig.2

8.2 Indications for optimal operation

- do not block the air vents of the engine compartment
- do not insert foods or liquids that are still hot
- place the foodstuffs on the appropriate shelves or containers. Do not place them directly on the bottom, or leaning against the walls, doors or fixed guards
- close the doors carefully
- always keep the defrost water drain hole clear of obstructions
- limit, to the extent possible, the frequency and duration of door opening. Each opening causes a change in the internal temperature
- load the goods on the shelves in a phased manner
- perform periodically current maintenance (see chapter 3)

In case of interruption or failure of the power supply circuit, prevent the opening of the doors in order to maintain a uniform temperature inside the refrigerated cabinet.

If the problem persists longer than a few hours it is recommended to move the material to a suitable place.

CHAPTER 9 CONTROLS

9.1 Description of the controls and buttons (Fig. 3)

The control panel has a digital temperature controller for cold and has 6 buttons with specific functions:

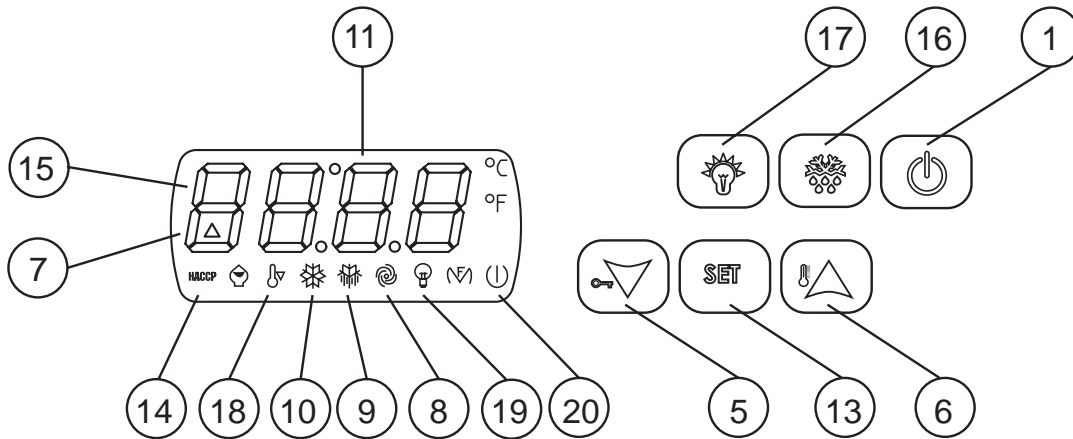


Fig.3

The control buttons with which the refrigerated cabinet is equipped are:

Display (11)	display of temperature and state of the refrigerated cabinet.
On standby button(1)	if pressed for 5 seconds the temperature controller will switch on
Set button (13)	when pressed it allows for the adjustment of the working set of the refrigerated cabinet
Up button (6)	when pressed it allows the increase of the values (higher temp. or higher values in the programming stage). If pressed for 10 seconds the overcooling (super cold) function starts
Down button (5)	when pressed it allows the decrease of the values (lower temp. or lower values in the programming stage). In addition, if pressed for more than 2 seconds it enters the sub-menu displaying temperature sensors and HACCP alarms and the counter of compressor operating hours, internal clock adjustment.
Defrost button (16)	if pressed it activates a manual defrost
Light button (17)	if pressed it activates the interior light
All the buttons when pressed also have the function of silencing the alarm buzzer of the temperature controller and storing the alarm in progress	

9.2 INSTRUCTIONS FOR USE

9.2.1 Start-up

Before starting up the refrigerated cabinet, make sure that the electrical connection and the connection have been made as indicated in Chapter 15.

Check the presence of voltage, icon 9 on and display off.

Start-up sequence (fig.3).

▶ press the on-standby button for 5 seconds	the display will turn on
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Wait for the control panel to stop flashing and for the display to remain on.

9.2.2 Stopping methods (fig.3)

▶ press the on-standby button (1) for 5 seconds	the display will turn off
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9.2.3 3 adjustment of the internal clock to the current time (fig. 3)

The first step is to adjust the internal clock to the current time as follows:

▶ press the down button for 2 seconds	the RTC display (real time clock)
▶ press the set button	the display will show yy (year)
▶ press up or down to change it	
▶ Press set	the display will show nn (month)
▶ press up or down to change it	
▶ Press set	the display will show dd (day)
▶ press up or down to change it	
▶ Press set	the display will show hh (hour)
▶ Press up or down to change it	
▶ Press set	the display will show nn (minutes)
▶ Press up or down to change it then press set	

After the adjustment is finished, do not operate the instrument for 60 seconds, it will automatically exit the procedure

Setting the temperature (Fig. 3)

To set the desired set temperature within the parameters of reference, proceed as follows:

▶ Press SET (13) and release	on the display, if there are no alarms the set temperature will appear
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To increase the value

To increase the temperature press the UP button (6) within 5 seconds.

To lower the temperature

To lower the temperature press the Down button (5) within 5 seconds

The instrument automatically stores the last set temperature value

9.2.5 Automatic and manual defrost (Fig. 3)

The refrigerated cabinet is factory-set to be able to defrost automatically at predetermined intervals as follows:

- **TNV Range** (normal ventilated temperature) a defrost type “by means of stopping the compressor” lasting up to 30 minutes every 8 hours of operation.
- **TNBV Range** (low normal temperature, ventilated) a defrost type “by means of activating the electric heaters” lasting up to 30 minutes every 8 hours of operation.
- **BTV Range** (low temperature, ventilated) a defrost type “by means of activating the electric heaters” lasting up to 30 minutes every 6 hours of operation of the compressor.
- **TN-PE Range** (normal fish temperature) a defrost type “by means of activating the electric heaters” lasting up to 30 minutes every 6 hours of operation.

It is possible to set other defrost modes, such as: (with compressor running time, with evaporator temperature, with pre-set times).

To change the defrost mode see the attached booklet of the temperature controller.

The user can perform a manual defrost, according to their needs, acting as follows

▶ press the defrost button (16) for 5 seconds

N.B.: during the automatic and manual defrost cycle the DEF LED will remain on, at the end of the defrost cycle, the indicator turns off and the refrigerated cabinet automatically resumes the normal cycle of operation.

Operation with HIGH or LOW humidity percentage

the controller is set to operate at HIGH RhH humidity

Simultaneously press and hold the SET (13) and UP (6) buttons for more than 4 seconds for operation at LOW humidity RhL

In order to operate at HIGH humidity RhH, repeat the operation

9.2.6 Keypad lock (fig.3)

By simultaneously holding down the standby ON (1) and DOWN (11) buttons for more than 4 seconds, the keyboard will be locked.

To unlock repeat the operation.

10 HACCP function

To meet the minimum requirements of the HACCP regulations, the temperature controller is capable of storing up to 3 HACCP alarms. The instrument provides the following information:

- critical temperature value.
- the actual date and time of alarm registration.
- duration of the alarm (from 1min to 99h and 59min, partial if the alarm is in progress).

The set critical values of the parameters below can be modified for different uses and are contained in the programming menu of the temperature controller.

To change these values see the booklet attached to the temperature controller.

Parameter	Description	TNSV	TNBV	TN-PE	BTV
A1	Minimum HACCP temperature	-10	-10	-10	-10
A4	Maximum HACCP temperature	10	10	10	10
A6	Time of delay at start-up	120	120	120	120
A7	Time out of temperature range	30	30	30	30

10.1 HACCP storage operation

When the temperature value measured by the probe of the refrigerated compartment is outside the minimum (A1) or the maximum (A4) limit, for a time greater than (A7), an alarm is signalled and an LS folder is automatically generated in the “machine status” menu of the temperature controller. The generated folder contains the value of the maximum or minimum temperature reached and the alarm time in progress or registered.

 **10.2 Viewing the HACCP alarms**

The alarms stored by the temperature controller can be seen as follows:

▶ Press the down button (5) for 2 seconds	the display will show the first available label
▶ Press the up (6) or down (5) button	select the LS label (folder containing the alarms)
▶ Press the set button (13)	the display will show the type of HACCP alarm (AL, AH)
▶ Press the set button (13) again	the value of the temperature alarm, the date and time of registration of the alarm, and the actual duration of the alarm status will be shown in sequence

For example:

AH1	Maximum alarm exceeded
20	Critical temperature
Sta	The display is about to display the date and time when the alarm was tripped
y (09)	Alarm registration year
n (09)	Alarm registration month
d (15)	Alarm registration day
h (16)	Alarm registration time
n (30)	Alarm registration minutes
Dur	The display is about to show the duration of the alarm status
h (2)	Hours of duration of alarm status
n (30)	Minutes of duration of alarm status

In the above example the temperature controller has registered an alarm for exceeding the maximum temperature (AH1) at 20°C on 15th September 2009 at 16:30 and remained in a state of alarm for 2 hours and 30 minutes.

To exit from the HACCP alarm display press the ON/OFF button (1) or not operate any button for 15 seconds.

10.3 Deleting the list of HACCP alarms

To delete the alarms folder, proceed as follows:

▶ Press the down button (5) for 2 seconds	
▶ Press up or down button to select the rLS label	
▶ Press set (13)	it will show 0
▶ Press the up button (6) within 15 seconds	set the value 149
▶ Press set (13) and do not operate for 15 seconds	
the display will show ----- flashing for 4 seconds and the HACCP icon will turn off	

If there is no alarm in memory the label rLS will not be displayed. If the alarms folder is not cleared, a new HACCP alarm will overwrite the previous one.

11 Alarms and signals (fig.3)

All alarms generate, on the temperature controller, as well as the turning on of the alarm buzzer and LED 7, messages to indicate the type of alarm. The display will show:

Pr1	refrigerated compartment probe fault
Pr2	evaporator probe fault
Pr3	condenser probe fault
COH	condenser overheated
CSd	compressor locked alarm
DFd	alarm for defrost concluded due to maximum duration
AL	minimum temperature exceeded alarm
AH	maximum temperature exceeded alarm
PF	power failure alarm
Rtc	internal clock error (program time and date again)

On the temperature controller it will also show the following reports of activated functions:

led ON/STANDBY (20)	when the refrigerated cabinet is powered but stops in standby
led COMP (10)	indicator light is on when the compressor is running, flashing for delay in starting or protection activated
led FAN (8)	indicator light is on when the evaporator fan is running
led DEF (9)	indicator light is on during defrosting
led ALL (7)	on for temperature alarm and probes faults
led HACCP (14)	on or flashing indicates storage of an HACCP alarm
led CH (15) (wrench)	on or flashing indicates a programmed maintenance request, for compressor working hours
led OVERCOOLING (18)	if on, the super cold status is in operation
led LI (19)	on when the interior light is on

CHAPTER 12 SCHEDULED MAINTENANCE

12.1 Counting the compressor operating hours

The instrument is capable of storing up to 9999 hours of compressor operation, to schedule a maintenance after the number of hours set by the parameter C10. At the expiry of the scheduled hours the icon 15 (wrench) will turn on the display.

 **12.1.1 To view the compressor operating hours proceed as follows:**

▶ Press the down button (5) for 2 seconds	the display will show the first available label
▶ Press the up (6) or down (5) button to select CH	
▶ Press set	the display will show the compressor operating hours
To exit the procedure press set (13) and do not operate for 15 seconds	

 **12.1.2 To delete the compressor operating hours proceed as follows:**

▶ Press the down button (5) for 2 seconds	the display will show the first available label
▶ Press the up (6) or down (5) button to select rCH	
▶ Press set (13)	the display will show 0
▶ Press the up (6) button and set 149	
▶ Press set (13) and do not operate for 15 seconds	the display will show ----- flashing for 4 seconds and the hours will be reset

For further instructions regarding the operation of the temperature controller see the attached booklet

NOISE LEVEL

The noise threshold of the refrigerated cabinet is lower than 70 dB (A).

CHAPTER 13 MATERIALS AND FLUID USED

The materials in contact or which may come into contact with foodstuffs comply with the relevant directives.

The refrigerated cabinet has been designed and built in such a way that these materials can be cleaned before each use.

The coolants used R404A/R290 conform to the relevant provisions of law (see Table 1).

R404A is a fluorinated gas covered by the Kyoto Protocol with a GWP potential of 3300



For refrigerated cabinets containing R290: R290 (Propane) is a natural gas with no effect on the environment but it is flammable and therefore contained in the system in minimum quantities prescribed by regulations on flammable gas and it is hermetically sealed.

Before any intervention on the coolant system, carefully read the attached INSTRUCTIONS FOR REPAIRS ON UNITS WITH R290 COOLANT GAS (PROPANE) supplied with the use and maintenance manual.



The symbol  indicates that this product must not be treated as household waste.

To prevent potential negative consequences for the environment and human health, make sure that this product is properly disposed of and recycled.

For more information regarding the disposal and recycling of this product, please contact your Distributor, after sale Service, or waste treatment Service.



CHAPTER 14 TRANSPORT AND HANDLING



The transport and handling of the refrigerated cabinet must only be done while maintaining the vertical position, observing the markings on the packaging.

The manufacturer disclaims any liability for problems resulting from transport performed under conditions other than those specified above.

The accessories of the refrigerated cabinet (guides, grilles, trays, remote condensing unit with pipes) are packaged separately and placed inside the unit.

The refrigerated cabinet is mounted on a wooden base with screws and packaged with polyethylene, carton, crate or boxes.

Regarding the disposal of the packaging it is necessary to refer to current regulations in your country.



The movement of the refrigerated cabinet shall be performed using a fork lift or pallet trucks equipped with suitable forks (length of at least 2/3 of the unit).

The dimensions and masses of the refrigerated cabinets packed are shown in Table 1.

The limits of stackability and the centre of gravity are indicated on the label of the package.

14.1 Positioning operations

Since the incorrect positioning of the refrigerated cabinet can cause damage to the same, jeopardizing its proper functioning and cause risks to the personnel, the installer must comply with the following general rules:

- position the refrigerated cabinet keeping a minimum distance of 3 cm from any wall
- the environment must be sufficiently ventilated
- position the refrigerated cabinet away from heat sources
- avoid exposure to direct sunlight
- remove the polyethylene, cardboard or wood packaging



Polyethylene is dangerous for children

- remove any accessories with external connections

Removing the wooden base: tilt the refrigerated cabinet sideways and unscrew the two self-tapping screws (fig. 4)

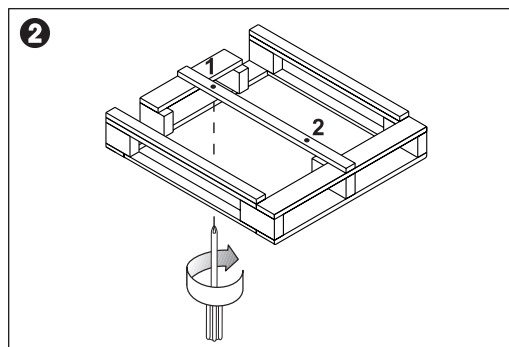


Fig.4

Drag the refrigerated cabinet from the rear while holding it slightly backwards and remove the base from the front part.



use protective gloves when handling the wooden packaging and the wooden base.

The presence of splinters may cause damage to your hands

- remove the PVC film applied as a protection to the outer surfaces of the refrigerated cabinet
- position the refrigerated cabinet using a level with possible adjustment of the feet of the metal base (Fig. 5)

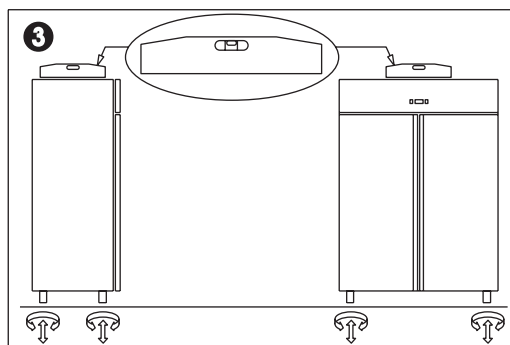


Fig.5

- position the grille holding guide rails in the holes of the racks (Fig. 6)

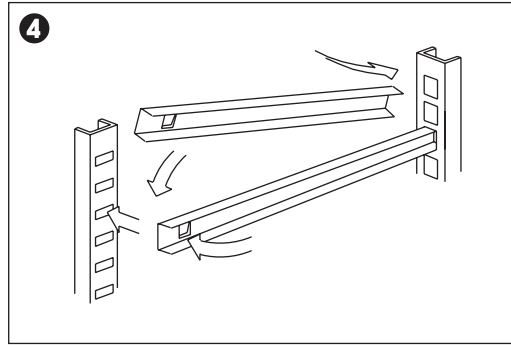


Fig.6

- insert the grilles for food in the special guides
- insert the condensate water drain pan into the special guide rails already fixed under the refrigerated cabinet if provided.

14.2 REM cabinets (Fig. 7)

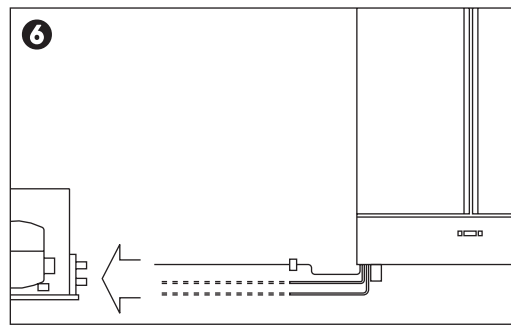


Fig.7

- position the refrigerated cabinet as described above (Fig. 5)
- prepare the two tubes that come out of the refrigerated cabinet (ø 6 mm outlet, ø 10 mm - ø 12 mm suction) for the connection to the respective pipes
- connect the pipes of the condensing unit to the pipes of the refrigerated cabinet
- create a vacuum and then carry out the loading of the coolant
- make the electrical connection of the refrigerated cabinet to the condensing unit
- perform a functional test to verify the correct gas charge.

CHAPTER 15 ELECTRICAL WIRING AND CONNECTIONS

The electrical system and connection must be carried out by qualified personnel. Before installation, measure the impedance of the network, the impedance value for the connection to the network must not exceed 0.075 ohm.

For safety reasons you must follow these guidelines:

- verify that the sizing of the electrical system is suitable for the power consumption of the refrigerated cabinet and that it provides for a differential switch (circuit breaker)
- in case of incompatibility between the outlet and the plug of the refrigerated cabinet, replace the outlet with another of a suitable type provided that it is in accordance with regulations
- do not insert adapters and/or reductions (Fig. 8)

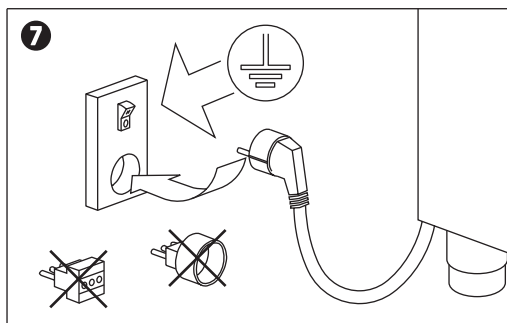




Fig.8

 The power cord has the connection type “Y” and it can be replaced exclusively by the manufacturer or authorized technical service.

 It is essential to correctly connect the refrigerated cabinet to an efficient earthing system carried out as specified by the applicable provisions of law.

CHAPTER 16 INSTALLATION OPERATIONS

It is important, in order to prevent errors and accidents, to perform a series of checks before starting up the refrigerated cabinet in order to identify any damage incurred during transport, handling and connection.

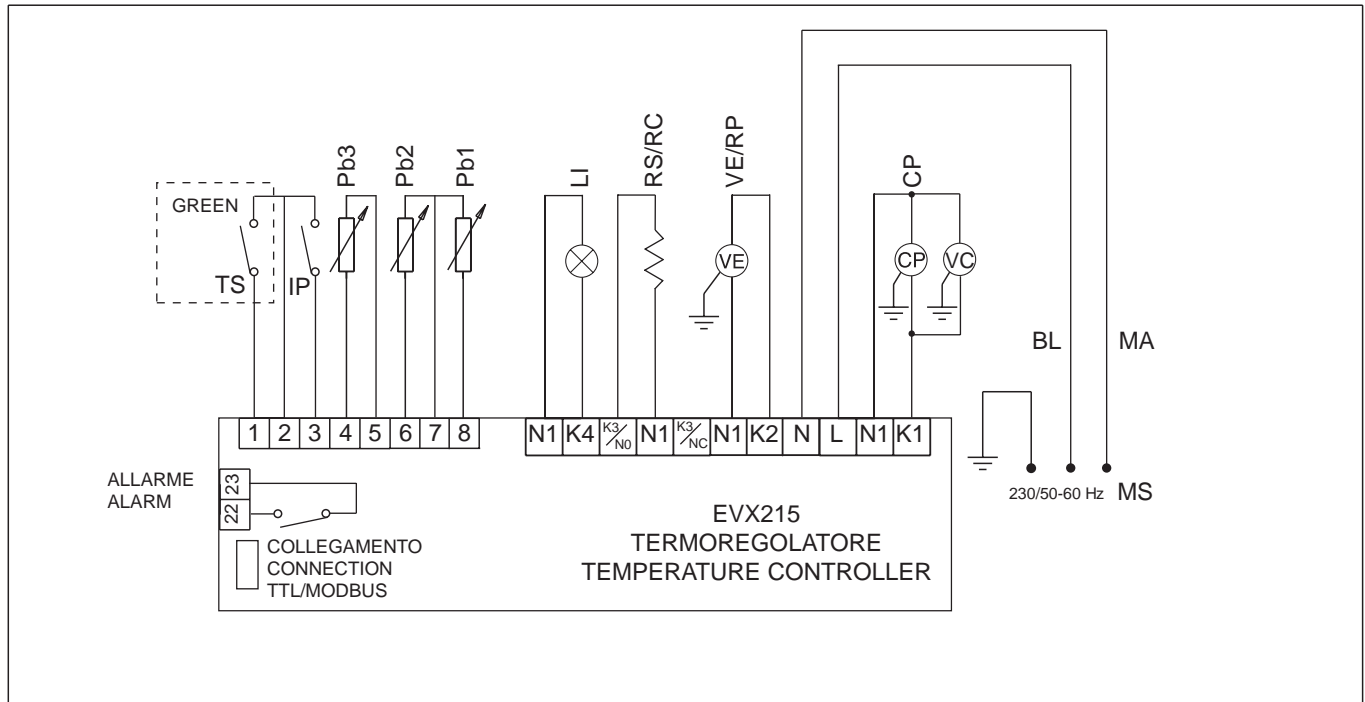
Checks to be performed:

- check the integrity of the power cord (it must not have suffered abrasions or cuts)
- check the solidity of the legs, door hinges, shelf supports
- check the integrity of the internal and external parts (pipes, heating elements, fans, electrical components, etc.) and their fixing
- check that the seals of the doors and drawers have not been damaged (cuts or abrasions) and close with an airtight seal
- check the integrity of the pipes and fittings (REM)

CHAPTER 17 REINSTALLATION

It is necessary to comply with the following procedure:

- disconnect the power cord from the power outlet
- the handling should be carried out as described in chapter 14
- for a new placement and connection, please refer to par. 14.1
- proceed to the possible recovery of the coolant gas in accordance with the regulations in force in your country (REM)



Legenda componenti

CP - Moto-compressore
 HL - Selettore umidità
 IL - Interruttore luce
 K1 - Relè compressore
 LI - Luce interna
 MS - Morsettiera alimentazione
 RB - Resistenza bacinella
 RC - Resistenza scarico
 RE - Reattore
 RS - Resistenza sbrinamento
 LS - Lampada spia sbrinamento
 IP - Interruttore porta
 RP - Resistenza anticondensa
 SA - Sonda termostato
 SS - Sonda evaporatore
 SG - Valvola solenoide
 VC - Ventilatore condensatore
 VE - Ventilatore evaporatore
 S - Starter
 UR - Unità remota

Legenda colori

NE - Nero
 GR - Grigio
 AR - Arancio
 RO - Rosso
 MA - Marrone
 BL - Blu
 BI - Bianco
 GV - Giallo Verde
 RA - Rosa
 VI - Viola
 AZ - Azzurro chiaro

Components key

CP - Moto-compressor
 HL - Humidity selector
 IL - Light switch
 K1 - Compressor relay
 LI - Internal light
 MS - Power supply terminal
 RB - Basin heater
 RC - Drain heater
 RE - Reactor
 RS - Defrost heater
 LS - Defrost indicator light
 IP - Door switch
 RP - Anti-condensate heater
 SA - Thermostat probe
 SA - Evaporator probe
 SG - Solenoid Valve
 VC - Condenser fan
 VE - Evaporator fan
 S - Starter
 UR - Remote unit

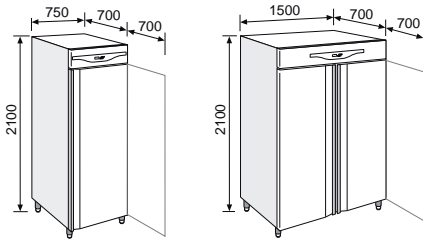
Colour Key

NE - Black
 GR - Grey
 AR - Orange
 RO - Red
 MA - Brown
 BL - Blue
 BI - White
 GV - Yellow Green
 RA - Pink
 VI - Purple
 AZ - Light blue

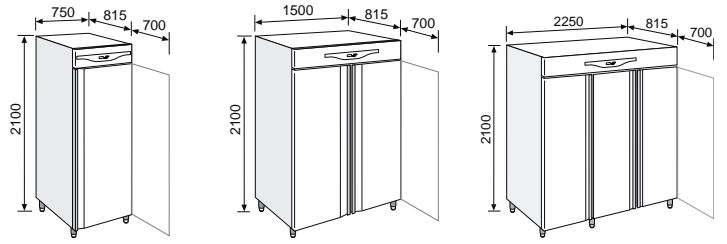
TABELLA 1 TABLE 1			Ingombri del armadio imballato Dimensions of the packed cabinet			Peso netto Net weight	Peso dell' armadio imballato Weight of the packed cabinet	Volume depos. Depos. volume	Potenze Powers		Fluido refrigerante Type of coolant	
									Potenza frig. Refrig. power	Assorb. Absorption	Tipo Type	g
mod.			L-W	H	P-D	Kg	Kg	Lt.	watt	watt		
PROFESSIONAL 70												
PRO	601	TNBV	760	2240	785	122	135	534	865	400	R 404A	280
PRO	601	BTV	760	2240	785	125	137	534	856	750	R 404A	320
PROG	601	TNV	760	2240	785	141	153	534	565	420	R 404A	280
PROG	601	BTV	760	2240	785	143	155	534	770	534	R 404A	320
PRO	1202	TNBV	1580	2240	785	169	189	1167	922	700	R 404A	350
PRO	1202	BTV	1580	2240	785	173	193	1167	1035	950	R 404A	430
PROG	1202	TNV	1580	2240	785	220	240	1167	922	740	R 404A	350
PROG	1202	BTV	1580	2240	785	222	242	1167	1035	960	R 404A	430
PROFESSIONAL 80												
PRO	701/702	TNBV	760	2240	880	137	149	625	565	400	R 404A	320
PRO	701/702	BTV	760	2240	880	140	152	625	865	750	R 404A	380
PRO	701	TNS PE	760	2240	880	138	150	300	565	400	R 404A	320
PROG	701	TNV	760	2240	880	156	168	625	565	420	R 404A	320
PROG	701	BTV	760	2240	880	158	170	625	865	770	R 404A	380
PRO	1502/3/4	TNBV	1580	2240	900	193	213	1365	922	700	R 404A	400
PRO	1502/3/4	BTV	1580	2240	900	203	223	1365	1035	950	R 404A	510
PROG	1502	TNV	1580	2240	900	250	270	1365	922	740	R 404A	400
PROG	1502	BTV	1580	2240	900	252	272	1365	1035	990	R 404A	510
PRO	2303/5	TNBV	2230	2240	900	315	347	2102	1844	1400	R 404A	400/400
PRO	2303/5	BTV	2230	2240	900	325	357	2102	2070	1900	R 404A	510/510
PROG	2303/5	TNV	2230	2240	900	369	401	2102	1844	1460	R 404A	400/400
PROG	2303/5	BTV	2230	2240	900	389	421	2102	2070	1960	R 404A	510/510
PROFESSIONAL 80 2T												
PRO	702 2T	TNBV/TNBV	760	2240	880	162	174	300/300	354/354	280/280	R 404A	280/280
PRO	702 2T	TNBV/BTV	760	2240	880	167	179	300/300	354/427	280/400	R 404A	280/320
PRO	702 2T	TNBV/TNS PE	760	2240	880	162	174	300/300	354/354	280/280	R 404A	280/280
PRO	1502 2T	TNBV/TNBV	1580	2240	900	235	255	625/625	565/565	400/400	R 404A	320/320
PRO	1502 2T	TNBV/BTV	1580	2240	900	245	265	625/625	565/856	400/750	R 404A	320/380
PRO	1503 2T	TNBV/TNBV	1580	2240	900	235	255	966/300	922/354	700/280	R 404A	400/320
PRO	1503 2T	TNBV/BTV	1580	2240	900	245	265	966/300	922/427	700/400	R 404A	400/380
PRO	1502/3 2T	TNBV/TNS PE	1580	2240	900	229	249	966/300	922/354	700/280	R 404A	400/380
PRO	2303 2T	TNBV/TNBV	2230	2240	900	335	357	1365/625	922/565	700/400	R 404A	400/320
PRO	2303 2T	TNBV/BTV	2230	2240	900	346	368	1365/625	922/856	700/750	R 404A	400/380
PROFESSIONAL GREEN												
PRO	701/702	TNBV	760	2240	880	137	149	625	395	230	R 290	90
PRO	701/702	BTV	760	2240	880	140	152	625	420	370	R 290	90
PROG	701	TNV	760	2240	880	156	168	625	395	230	R 290	90
PROG	701	BTV	760	2240	880	158	170	625	420	370	R 290	90
PRO	1502/3/4	TNBV	1580	2240	900	193	213	1365	610	370	R 290	120
PRO	1502/3/4	BTV	1580	2240	900	203	223	1365	840	500	R 290	90/90
PROG	1502	TNV	1580	2240	900	250	270	1365	611	370	R 290	120
PROG	1502	BTV	1580	2240	900	252	272	1365	840	500	R 290	90/90
PASTRY												
PASTRY	71/72	TNBV	870	2220	760	150	165	573	565	450	R 404A	320
PASTRY	71/72	BTV	870	2220	760	166	181	573	850	573	R 404A	380
PASTRYG	71	TNBV	870	2220	760	150	165	573	565	470	R 404A	320
PASTRYG	71	BTV	870	2220	760	166	181	573	960	870	R 404A	380
PASTRY	101/102	TNBV	870	2220	1080	164	179	875	922	750	R 404A	320
PASTRY	101/102	BTV	870	2220	1080	180	195	875	1400	1150	R 404A	380
PASTRYG	100	TNBV	870	2220	1080	164	179	875	922	770	R 404A	320
PASTRYG	100	BTV	870	2220	1080	180	195	875	1400	1170	R 404A	380
ICE												
ICE	70	BTST	870	2220	760	145	160	573	730	600	R 404A	500
ICE	100	BTV	870	2220	1060	165	180	875	1150	875	R 404A	620
ICE	100	BTST	870	2220	1060	168	183	775	820	875	R 404A	450
ROLL-IN / ROLL-THROUGH												
ROLL-IN	1	TNV	1050	2350	1060	175	190	1120	922	700	R 404A	400
ROLL-TH	1	TNV	1050	2350	1147	195	210	1233	922	700	R 404A	400
ROLL-IN	2	TNV	1840	2340	1079	272	292	2466	1400	2466	R 404A	550
ROLL-TH	2	TNV	1840	2340	1079	292	312	2700	1400	2700	R 404A	550

Modello - Model

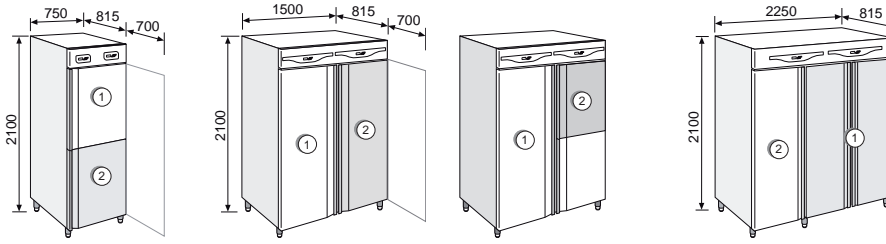
PROFESSIONAL 70



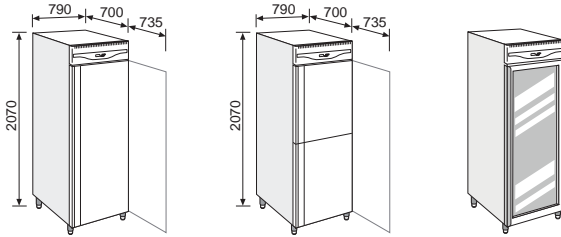
PROFESSIONAL 80



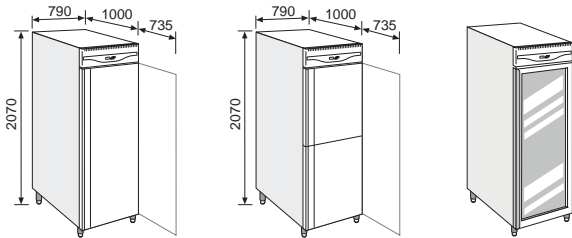
PROFESSIONAL 80 2T



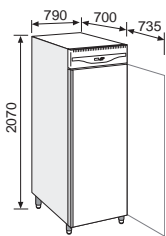
PASTRY 71 - 72



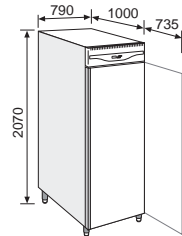
PASTRY 101 - 102



ICE 70



ICE 100



ROLL-IN
ROLL-THROUGH

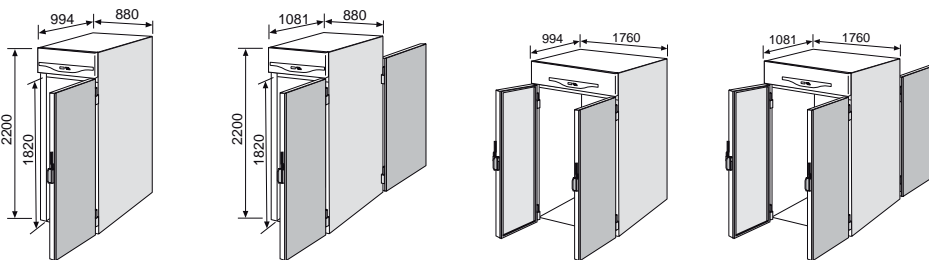


Tabella Parametri Armadio PROFESSIONAL

Par.	Descrizione	Range	VALORI IMPOSTATI				
			TNV GLASS	TNBV	TNPE	BTV	BTV GLASS
SP	Temperatura di set point	r1;r2 °C	0	0	-2	-20	-20
	INGRESSI DI MISURA						
CA1	Offset sonda cella	-25; 25 °C	0	0	0	0	0
CA2	Offset sonda evaporatore	-25; 25 °C	0	0	0	0	0
CA3	Offset sonda ausiliaria	-25; 25 °C	0	0	0	0	0
P1	Punto decimale	0; 1	1	1	1	1	1
P2	Unità di misura temperatura	0; 1	0	0	0	0	0
P3	Funzione sonda evaporatore	0; 1; 2	1	1	1	1	1
P4	Abilitazione sonda condensatore	0; 1	1(n1)	1(n1)	1(n1)	1(n1)	1(n1)
P8	Rit. visualizzazione variazione di temperatura	0; 250 d"	0	0	0	0	0
	REGOLATORE PRINCIPALE						
r0	Differenziale setpoint	0; 15 °C	2	2	2	2	2
r1	Minimo setpoint di lavoro	-99; r2 °C	0	-2	-5	-22	-20
r2	Massimo setpoint di lavoro	r1; 99 °C	10	10	10	-10	-10
r3	Blocco modifica setpoint	0; 1	0	0	0	0	0
r4	Incremento Temperatura in energy saving	0; 99 °C	0	0	0	0	0
r5	Decremento Temperatura in Overcooling	0; 99 °C	3	3	3	3	3
r6	Durata funzione Overcooling	0; 240 '	60	60	60	60	60
r7	Diff min temp evap per calcolo sbrinamento	0; 99	10	10	10	10	10
	PROTEZIONE DEL COMPRESSORE						
C0	Ritardo compressore all'accensione	0; 240 '	0	0	0	0	0
C1	Ritardo compressore on-on	0; 240 '	0	0	0	0	0
C2	Ritardo compressore off-on	0; 240 '	5	5	5	5	5
C3	Durata minima on compressore	0; 240 "	0	0	0	0	0
C4	Tempo off sonda guasta	0; 240 '	10	10	10	10	10
C5	Tempo on sonda guasta	0; 240 '	10	10	10	10	10
C6	Temperatura allarme sonda condensatore	0; 200 °C	60	60	60	60	60
C7	Temperatura sonda cond per blocco compressore	0; 200 °C	65	65	65	65	65
C8	Ritardo allarme compr bloccato	0; 15 '	1	1	1	1	1
C10	Ore compressore on per richiesta manutenzione	0; 9999 h	0	0	0	0	0
	REGOLAZIONI SBRINAMENTO						
d0	Intervallo di sbrinamento	0; 99 h	8	8	6	6	6
d1	Tipo di sbrinamento	0;1;2	0	0	1	0	0
d2	Temperatura fine sbrinamento	-99; 99 °C	8	8	8	8	8
d3	Durata max sbrinamento	0; 99 '	30	30	30	30	30
d4	Sbrinamento all'accensione	0; 1	0	0	0	0	0
d5	Ritardo sbrinamento all'accensione	0; 99 '	0	0	0	0	0
d6	Temperatura visualizzata in sbrinamento	0; 1	1	1	1	1	1
d7	Durata sgocciolamento	0; 15 '	2	2	2	2	2
d8	Tipo intervallo sbrinamento	0;1;2;3;4	0	0	0	0	0
d9	Temperatura evap max per conteggio intervallo sbrin	-99; 99 °C	0	0	0	0	0
d11	Allarme per durata tempo max sbrinamento	0; 1	0	0	0	0	0
d15	Durata minima on compr per on sbrinamento a gas caldo	0; 99 '	0	0	0	0	0
d16	Tempo di pregocciolamento con comp off e sbrin on	1; 99'	0	0	0	0	0
d17	Num valori temperat evaporatore per sbrin adattativo	1; 10 °C	1	1	1	1	1
d18	Durata sbrinamento adattativo	0; 3000 '	40'	40'	40'	40'	40'
d19	Temperatura evaporat per on sbrinam adattativo	0; 40°C	3	3	3	3	3
d20	Durata accensione compr per attivazione sbrinamento	0; 500'	180'	180'	180'	180'	180'
d21	Durata min accensione compr e acc strumento per sbrinamento	0; 500'	200'	200'	200'	200'	200'
d22	Temp evap min per conteggio attivaz sbrinamento	0; 10 °C	2	2	2	2	2
d23	Increment in energy saving per conteggio sbrinamento	0; 10 °C	1	1	1	1	1
	ALLARMI DI TEMPERATURA						
A0	Temperatura associata per allarme min	0; 1; 2	0	0	0	0	0
A1	Allarme temperatura minima	-99; 99 °C	-10	-10	-10	-10	-10
A2	Tipo di allarme minima	0; 1; 2	1	1	1	1	1
A4	Allarme di temperatura max	-99; 99 °C	10	10	10	10	10
A5	Tipo di allarme massima	0; 1; 2	1	1	1	1	1
A6	Ritardo allarme max all'accensione	0; 240 '	120	120	120	120	120
A7	Ritardo allarme temperatura	0; 240 '	30	30	30	30	30
A8	Ritardo allarme temperatura per termine sbrin.	0; 240 '	60	60	60	60	60

A9	Ritardo allarme temperatura per micro porta off	0; 240 '	60	60	60	60	60
A10	Durata di power-off per attivazione allarme	0; 240 '	60	60	60	60	60
A11	Differenziale parametri allarme	0; 15 °C	2	2	2	2	2
A12	Segnalazione allarme PF per power off	0; 1; 2	2	2	2	2	2
VENTILATORE EVAPORATORE							
F0	Ventola evap on	0;1;2;3;4;5	5	5	5	5	5
F1	Temperatura evaporatore	-99; 99 °C	40	40	40	40	40
F2	Ventilatori in sbrinamento	0; 1; 2	0	0	0	0	0
F3	Tempo ritardo ventilatori	0; 15 '	2	2	2	2	2
F4	Durata off ventilatore per bassa umidità e compr off	0; 240 "	0	0	0	0	0
F5	Durata on ventilatore per bassa umidità e copr off	0; 240 "	0	0	0	0	0
F6	Funzionamento ventilatore bassa o alta umidità	0; 1	1	1	1	1	1
F7	Temp evap relativa al set point per vent off	-99; 99 °C	-50	-50	-50	-50	-50
F8	Differenziale temperatura evaporatore	0; 15 °C	2	2	2	2	2
F9	Ritardo spegnimento ventilatore solo F0=2-4-5	0; 240 "	0	0	0	0	0
F11	Temp condensatore per on ventilatore condensatore	0; 99 °C	0	0	0	0	0
F12	Ritardo off ventilatore condensatore	0; 240 "	0	0	0	0	0
F13	Durata off vent evap per Energy Saving	0; 240 '	0	0	0	0	0
F14	Durata on vent evap per Energy Saving	0; 240 '	0	0	0	0	0
INGRESSI DIGITALI							
i0	On off micro porta	0;...;5	5	5	5	5	5
i1	Contatto micro porta NA-NC	0; 1	0	0	0	0	0
i2	Ritardo allarme microporta on	-1; 120 '	30	30	30	30	30
i3	Durata max attivazione micro	-1; 120 '	15	15	15	15	15
i4	Memorizzazione allarme micro	0; 1	1	1	1	1	1
i5	Effetto attivazione 4 ingresso multifunzione	0;...;6	6	6	6	6	6
i6	Tipo contatto ingresso multifunzione	0; 1	0 (n2)	0 (n2)	0 (n2)	0 (n2)	0 (n2)
i7	Ritardo allarme on multifunzione	0; 120 '	0	0	0	0	0
i8	Numero allarmi multipli per allarme pressostato	0; 15	0	0	0	0	0
i9	Tempo reset allarmi multifunzione	1; 999 '	1	1	1	1	1
i10	Tempo per reset micro per attivazione Energy Saving	0; 999 '	0	0	0	0	0
i11	Durata minima dell'attivaz micro per esclusione valore temp evap per calcolo sbrinamento adattativo	0; 240'	0	0	0	0	0
i12	Durata minima delle attivaz micro per esclus valore di temp evap dal calcolo sbrinamento adattativo	0; 240'	60'	60'	60'	60'	60'
i13	Numero attivazioni microporta per on sbrinamento	0; 240'	0'	0'	0'	0'	0'
i14	Durata min attivazione ing microporta per on sbrinamen.	0; 240'	0'	0'	0'	0'	0'
USCITE DIGITALI							
u1	Utenza quarto relè	0;...;6	0	0	0	0	0
u2	Abilitazione luce cella on-off quando strumento off	0; 1	0	0	0	0	0
u4	Abilitazione off allarme	0; 1	1	1	1	1	1
u5	Temperatura cella per resistenze off	-99; 99 °C	-1				
u6	Durata accensione resistenze antiappanamento	1; 120 '	5	5	5	5	5
u7	Temperatura cella per off valvola evaporatore	0; 99 °C	2	2	2	2	2
u8	Tipo contatto valvola evaporatore	0; 1	0	0	0	0	0
u9	Abilitazione buzzer	0; 1	1	1	1	1	1
u11	Utenza gestita dalla 5 uscita	0;...;6	3	3	3	3	3
ENERGY SAVING IN TEMPO REALE							
HE1	Orario attivazione Energy Saving in tempo reale	00; 24h	0	0	0	0	0
HE2	Durata attivazione Energy Saving in tempo reale	00; 24h	0	0	0	0	0
SBRINAMENTO IN TEMPO REALE							
Hd1	Orario reale attivazione primo sbrinamento	00; 24h	----	----	----	----	----
Hd2	Orario reale attivazione secondo sbrinamento	00; 24h	----	----	----	----	----
Hd3	Orario reale attivazione terzo sbrinamento	00; 24h	----	----	----	----	----
Hd4	Orario reale attivazione quarto sbrinamento	00; 24h	----	----	----	----	----
Hd5	Orario reale attivazione quinto sbrinamento	00; 24h	----	----	----	----	----
Hd6	Orario reale attivazione sesto sbrinamento	00; 24h	----	----	----	----	----
COMUNICAZIONE RETE SERIALE							
La	Indirizzo strumento	1; 247	247	247	247	247	247
Lb	Bit di comunicazione	0; 1; 2; 3	2	2	2	2	2
Lp	Parità	0; 1; 2	2	2	2	2	2

Note: n1 = Con unità remota il valore P4 sarà 0
n2 = Per modelli GREEN il valore i6 sarà 1

Tabella Parametri Armadi PASTRY - ICE

Par.	Descrizione	Range	VALORI IMPOSTATI		
			TNBV	BTV	BT-ST
SP	Temperatura di set point	r1;r2 °C	0	-25	-25
	INGRESSI DI MISURA				
CA1	Offset sonda cella	-25; 25 °C	0	0	0
CA2	Offset sonda evaporatore	-25; 25 °C	0	0	0
CA3	Offset sonda ausiliaria	-25; 25 °C	0	0	0
P1	Punto decimale	0; 1	1	1	1
P2	Unità di misura temperatura	0; 1	0	0	0
P3	Funzione sonda evaporatore	0; 1; 2	1	1	0
P4	Abilitazione sonda condensatore	0; 1	1(n1)	1(n1)	1(n1)
P8	Rit. visualizzazione variazione di temperatura	0; 250 d"	0	0	0
	REGOLATORE PRINCIPALE				
r0	Differenziale setpoint	0; 15 °C	2	2	2
r1	Minimo setpoint di lavoro	-99; r2 °C	-2	-25	-25
r2	Massimo setpoint di lavoro	r1; 99 °C	10	-10	-10
r3	Blocco modifica setpoint	0; 1	0	0	0
r4	Incremento Temperatura in energy saving	0; 99 °C	0	0	0
r5	Decremento Temperatura in Overcooling	0; 99 °C	3	3	3
r6	Durata funzione Overcooling	0; 240 '	60	60	60
r7	Diff min temp evap per calcolo sbrinamento	0; 99	10	10	10
	PROTEZIONE DEL COMPRESSORE				
C0	Ritardo compressore all'accensione	0; 240 '	0	0	0
C1	Ritardo compressore on-on	0; 240 '	0	0	0
C2	Ritardo compressore off-on	0; 240 '	5	5	5
C3	Durata minima on compressore	0; 240 "	0	0	0
C4	Tempo off sonda guasta	0; 240 '	10	10	10
C5	Tempo on sonda guasta	0; 240 '	10	10	10
C6	Temperatura allarme sonda condensatore	0; 200 °C	60	60	60
C7	Temperatura sonda cond per blocco compressore	0; 200 °C	65	65	65
C8	Ritardo allarme compr bloccato	0; 15 '	1	1	1
C10	Ore compressore on per richiesta manutenzione	0; 9999 h	0	0	0
	REGOLAZIONI SBRINAMENTO				
d0	Intervallo di sbrinamento	0; 99 h	8	6	0
d1	Tipo di sbrinamento	0;1;2	0	0	0
d2	Temperatura fine sbrinamento	-99; 99 °C	8	8	8
d3	Durata max sbrinamento	0; 99 '	30	30	30
d4	Sbrinamento all'accensione	0; 1	0	0	0
d5	Ritardo sbrinamento all'accensione	0; 99 '	0	0	0
d6	Temperatura visualizzata in sbrinamento	0; 1	1	1	1
d7	Durata sgocciolamento	0; 15 '	2	2	2
d8	Tipo intervallo sbrinamento	0 ;1 ;2 ;3 ;4	0	0	0
d9	Temperatura evap max per conteggio intervallo sbrin	-99; 99 °C	0	0	0
d11	Allarme per durata tempo max sbrinamento	0; 1	0	0	0
d15	Durata minima on compr per on sbrinamento a gas caldo	0; 99 '	0	0	0
d16	Tempo di pregocciolamento con comp off e sbrin on	1; 99'	0	0	0
d17	Num valori temperat evaporatore per sbrin adattativo	1; 10 °C	1	1	1
d18	Durata sbrinamento adattativo	0; 3000 '	40'	40'	40'
d19	Temperatura evaporat per on sbrinam adattativo	0; 40°C	3	3	3
d20	Durata accensione compr per attivazione sbrinamento	0; 500'	180'	180'	180'
d21	Durata min accensione compr e acc strumento per sbrin	0; 500'	200'	200'	200'
d22	Temp evap min per conteggio attivaz sbrinamento	0; 10 °C	2	2	2
d23	Increment in energy saving per conteggio sbrinamento	0; 10 °C	1	1	1
	ALLARMI DI TEMPERATURA				
A0	Temperatura associata per allarme min	0; 1; 2	0	0	0
A1	Allarme temperatura minima	-99; 99 °C	-10	-10	-10
A2	Tipo di allarme minima	0; 1; 2	1	1	1
A4	Allarme di temperatura max	-99; 99 °C	10	10	10
A5	Tipo di allarme massima	0; 1; 2	1	1	1
A6	Ritardo allarme max all'accensione	0; 240 '	120	120	120
A7	Ritardo allarme temperatura	0; 240 '	30	30	30
A8	Ritardo allarme temperatura per termine sbrin.	0; 240 '	60	60	60
A9	Ritardo allarme temperatura per micro porta off	0; 240 '	60	60	60

A10	Durata di power-off per attivazione allarme	0; 240 '	60	60	60
A11	Differenziale parametri allarme	0; 15 °C	2	2	2
A12	Segnalazione allarme PF per power off	0; 1; 2	2	2	2
	VENTILATORE EVAPORATORE				
F0	Ventola evap on	0;1;2;3;4;5	5	5	5
F1	Temperatura evaporatore	-99; 99 °C	40	40	40
F2	Ventilatori in sbrinamento	0; 1; 2	0	0	0
F3	Tempo ritardo ventilatori	0; 15 '	2	2	2
F4	Durata off ventilatore per bassa umidità e compr off	0; 240 "	0	0	0
F5	Durata on ventilatore per bassa umidità e copr off	0; 240 "	0	0	0
F6	Funzionamento ventilatore bassa o alta umidità	0; 1	1	1	1
F7	Temp evap relativa al set point per vent off	-99; 99 °C	-50	-50	-50
F8	Differenziale temperatura evaporatore	0; 15 °C	2	2	2
F9	Ritardo spegnimento ventilatore solo F0=2-4-5	0; 240 "	0	0	0
F11	Temp condensatore per on ventilatore condensatore	0; 99 °C	0	0	0
F12	Ritardo off ventilatore condensatore	0; 240 "	0	0	0
F13	Durata off vent evap per Energy Saving	0; 240 '	0	0	0
F14	Durata on vent evap per Energy Saving	0; 240 '	0	0	0
	INGRESSI DIGITALI				
i0	On off micro porta	0;...;5	5	5	5
i1	Contatto micro porta NA-NC	0; 1	0	0	0
i2	Ritardo allarme microporta on	-1; 120 '	30	30	30
i3	Durata max attivazione micro	-1; 120 '	15	15	15
i4	Memorizzazione allarme micro	0; 1	1	1	1
i5	Effetto attivazione 4 ingresso multifunzione	0;...;6	6	6	6
i6	Tipo contatto ingresso multifunzione	0; 1	0	0	0
i7	Ritardo allarme on multifunzione	0; 120 '	0	0	0
i8	Numero allarmi multipli per allarme pressostato	0; 15	0	0	0
i9	Tempo reset allarmi multifunzione	1; 999 '	1	1	1
i10	Tempo per reset micro per attivazione Energy Saving	0; 999 '	0	0	0
i11	Durata minima dell'attivaz micro per esclusione valore temp evap per calcolo sbrinamento adattativo	0; 240'	0	0	0
i12	Durata minima delle attivaz micro per esclus valore di temp evap dal calcolo sbrinamento adattativo	0; 240'	60'	60'	60'
i13	Numero attivazioni microporta per on sbrinamento	0; 240'	0'	0'	0'
i14	Durata min attivazione ing microporta per on sbrinamen.	0; 240'	0'	0'	0'
	USCITE DIGITALI				
u1	Utenza quarto relè	0;...;6	0	0	0
u2	Abilitazione luce cella on-off quando strumento off	0; 1	0	0	0
u4	Abilitazione off allarme	0; 1	1	1	1
u5	Temperatura cella per resistenze off	-99; 99 °C	-1	-1	-1
u6	Durata accensione resistenze antiappanamento	1; 120 '	5	5	5
u7	Temperatura cella per off valvola evaporatore	0; 99 °C	2	2	2
u8	Tipo contatto valvola evaporatore	0; 1	0	0	0
u9	Abilitazione buzzer	0; 1	1	1	1
u11	Utenza gestita dalla 5 uscita	0;...;6	3	3	3
	ENERGY SAVING IN TEMPO REALE				
HE1	Orario attivazione Energy Saving in tempo reale	00; 24h	00	00	00
HE2	Durata attivazione Energy Saving in tempo reale	00; 24h	00	00	00
	SBRINAMENTO IN TEMPO REALE				
Hd1	Orario reale attivazione primo sbrinamento	00; 24h	----	----	----
Hd2	Orario reale attivazione secondo sbrinamento	00; 24h	----	----	----
Hd3	Orario reale attivazione terzo sbrinamento	00; 24h	----	----	----
Hd4	Orario reale attivazione quarto sbrinamento	00; 24h	----	----	----
Hd5	Orario reale attivazione quinto sbrinamento	00; 24h	----	----	----
Hd6	Orario reale attivazione sesto sbrinamento	00; 24h	----	----	----
	COMUNICAZIONE RETE SERIALE				
La	Indirizzo strumento	1; 247	247	247	247
Lb	Bit di comunicazione	0; 1; 2; 3	2	2	2
Lp	Parità	0; 1; 2	2	2	2

Note: n1= con unità remota il valore di P4 sarà 0

Rev.10/2013

Tabella Parametri Armadio ROLL-IN / ROLL-THROUGH

Par.	Descrizione	Range	VALORI IMPOSTATI
			TNBV
SP	Temperatura di set point	r1;r2 °C	-2
INGRESSI DI MISURA			
CA1	Offset sonda cella	-25; 25 °C	0
CA2	Offset sonda evaporatore	-25; 25 °C	0
CA3	Offset sonda ausiliaria	-25; 25 °C	0
P1	Punto decimale	0; 1	1
P2	Unità di misura temperatura	0; 1	0
P3	Funzione sonda evaporatore	0; 1; 2	1
P4	Abilitazione sonda condensatore	0; 1	1
P8	Rit. visualizzazione variazione di temperatura	0; 250 d"	0
REGOLATORE PRINCIPALE			
r0	Differenziale setpoint	0; 15 °C	2
r1	Minimo setpoint di lavoro	-99; r2 °C	-2
r2	Massimo setpoint di lavoro	r1; 99 °C	10
r3	Blocco modifica setpoint	0; 1	0
r4	Incremento Temperatura in energy saving	0; 99 °C	0
r5	Decremento Temperatura in Overcooling	0; 99 °C	3
r6	Durata funzione Overcooling	0; 240 '	60
r7	Diff min temp evap per calcolo sbrinamento	0; 99	10
PROTEZIONE DEL COMPRESSORE			
C0	Ritardo compressore all'accensione	0; 240 '	0
C1	Ritardo compressore on-on	0; 240 '	0
C2	Ritardo compressore off-on	0; 240 '	5
C3	Durata minima on compressore	0; 240 "	0
C4	Tempo off sonda guasta	0; 240 '	10
C5	Tempo on sonda guasta	0; 240 '	10
C6	Temperatura allarme sonda condensatore	0; 200 °C	60
C7	Temperatura sonda cond per blocco compressore	0; 200 °C	65
C8	Ritardo allarme compr bloccato	0; 15 '	1
C10	Ore compressore on per richiesta manutenzione	0; 9999 h	0
REGOLAZIONI SBRINAMENTO			
d0	Intervallo di sbrinamento	0; 99 h	8
d1	Tipo di sbrinamento	0;1;2	0
d2	Temperatura fine sbrinamento	-99; 99 °C	8
d3	Durata max sbrinamento	0; 99 '	30
d4	Sbrinamento all'accensione	0; 1	0
d5	Ritardo sbrinamento all'accensione	0; 99 '	0
d6	Temperatura visualizzata in sbrinamento	0; 1	1
d7	Durata sgocciolamento	0; 15 '	2
d8	Tipo intervallo sbrinamento	0 ;1 ;2 ;3 ;4	0
d9	Temperatura evap max per conteggio intervallo sbrin	-99; 99 °C	0
d11	Allarme per durata tempo max sbrinamento	0; 1	0
d15	Durata minima on compr per on sbrinamento a gas caldo	0; 99 '	0
d16	Tempo di peggioramento con comp off e sbrin on	1; 99'	0
d17	Num valori temperat evaporatore per sbrin adattativo	1; 10 °C	1
d18	Durata sbrinamento adattativo	0; 3000 '	40'
d19	Temperatura evaporat per on sbrinam adattativo	0; 40°C	3
d20	Durata accensione compr per attivazione sbrinamento	0; 500'	180'
d21	Durata min accensione compr e acc strumento per sbrinamento	0; 500'	200'
d22	Temp evap min per conteggio attivaz sbrinamento	0; 10 °C	2
d23	Incres in energy saving per conteggio sbrinamento	0; 10 °C	1
ALLARMI DI TEMPERATURA			
A0	Temperatura associata per allarme min	0; 1; 2	0
A1	Allarme temperatura minima	-99; 99 °C	-10
A2	Tipo di allarme minima	0; 1; 2	1
A4	Allarme di temperatura max	-99; 99 °C	10
A5	Tipo di allarme massima	0; 1; 2	1
A6	Ritardo allarme max all'accensione	0; 240 '	120
A7	Ritardo allarme temperatura	0; 240 '	30
A8	Ritardo allarme temperatura per termine sbrin.	0; 240 '	60
A9	Ritardo allarme temperatura per micro porta off	0; 240 '	60

A10	Durata di power-off per attivazione allarme	0; 240 '	60
A11	Differenziale parametri allarme	0; 15 °C	2
A12	Segnalazione allarme PF per power off	0; 1; 2	2
VENTILATORE EVAPORATORE			
F0	Ventola evap on	0;1;2;3;4;5	5
F1	Temperatura evaporatore	-99; 99 °C	40
F2	Ventilatori in sbrinamento	0; 1; 2	0
F3	Tempo ritardo ventilatori	0; 15 '	2
F4	Durata off ventilatore per bassa umidità e compr off	0; 240 "	0
F5	Durata on ventilatore per bassa umidità e copr off	0; 240 "	0
F6	Funzionamento ventilatore bassa o alta umidità	0; 1	1
F7	Temp evap relativa al set point per vent off	-99; 99 °C	-50
F8	Differenziale temperatura evaporatore	0; 15 °C	2
F9	Ritardo spegnimento ventilatore solo F0=2-4-5	0; 240 "	0
F11	Temp condensatore per on ventilatore condensatore	0; 99 °C	0
F12	Ritardo off ventilatore condensatore	0; 240 "	0
F13	Durata off vent evap per Energy Saving	0; 240 '	0
F14	Durata on vent evap per Energy Saving	0; 240 '	0
INGRESSI DIGITALI			
i0	On off micro porta	0;...;5	5
i1	Contatto micro porta NA-NC	0; 1	0
i2	Ritardo allarme microporta on	-1; 120 '	30
i3	Durata max attivazione micro	-1; 120 '	15
i4	Memorizzazione allarme micro	0; 1	1
i5	Effetto attivazione 4 ingresso multifunzione	0;...;6	6
i6	Tipo contatto ingresso multifunzione	0; 1	0
i7	Ritardo allarme on multifunzione	0; 120 '	0
i8	Numero allarmi multipli per allarme pressostato	0; 15	0
i9	Tempo reset allarmi multifunzione	1; 999 '	1
i10	Tempo per reset micro per attivazione Energy Saving	0; 999 '	0
i11	Durata minima dell'attivaz micro per esclusione valore temp evap per calcolo sbrinamento adattativo	0; 240'	0
i12	Durata minima delle attivaz micro per esclus valore di temp evap dal calcolo sbrinamento adattativo	0; 240'	60'
i13	Numero attivazioni microporta per on sbrinamento	0; 240'	0'
i14	Durata min attivazione ing microporta per on sbrinamen.	0; 240'	0'
USCITE DIGITALI			
u1	Utenza quarto relè	0;...;6	0
u2	Abilitazione luce cella on-off quando strumento off	0; 1	0
u4	Abilitazione off allarme	0; 1	1
u5	Temperatura cella per resistenze off	-99; 99 °C	-1
u6	Durata accensione resistenze antiappannamento	1; 120 '	5
u7	Temperatura cella per off valvola evaporatore	0; 99 °C	2
u8	Tipo contatto valvola evaporatore	0; 1	0
u9	Abilitazione buzzer	0; 1	1
u11	Utenza gestita dalla 5 uscite	0;...;6	3
ENERGY SAVING IN TEMPO REALE			
HE1	Orario attivazione Energy Saving in tempo reale	00; 24h	00
HE2	Durata attivazione Energy Saving in tempo reale	00; 24h	00
SBRINAMENTO IN TEMPO REALE			
Hd1	Orario reale attivazione primo sbrinamento	00; 24h	----
Hd2	Orario reale attivazione secondo sbrinamento	00; 24h	----
Hd3	Orario reale attivazione terzo sbrinamento	00; 24h	----
Hd4	Orario reale attivazione quarto sbrinamento	00; 24h	----
Hd5	Orario reale attivazione quinto sbrinamento	00; 24h	----
Hd6	Orario reale attivazione sesto sbrinamento	00; 24h	----
COMUNICAZIONE RETE SERIALE			
La	Indirizzo strumento	1; 247	247
Lb	Bit di comunicazione	0; 1; 2; 3	2
Lp	Parità	0; 1; 2	2

Note: n1= con unità remota il valore di P4 sarà 0

Rev.07/2013

Parameters Table of PROFESSIONAL Cabinet

Par.	Description	Range	SET VALUES				
			TNV GLASS	TNBV	TNPE	BTV	BTV GLASS
SP	Set point temperature	r1;r2 °C	0	0	-2	-20	-20
	MEASURING INPUTS						
CA1	Cell probe offset	-25; 25 °C	0	0	0	0	0
CA2	Evaporator probe offset	-25; 25 °C	0	0	0	0	0
CA3	Auxiliary probe offset	-25; 25 °C	0	0	0	0	0
P1	Decimal point	0; 1	1	1	1	1	1
P2	Units of temperature measurement	0; 1	0	0	0	0	0
P3	Evaporator probe function	0; 1; 2	1	1	1	1	1
P4	Activation of condenser probe	0; 1	1(n1)	1(n1)	1(n1)	1(n1)	1(n1)
P8	Temperature variation display delay	0; 250 d"	0	0	0	0	0
	REGULATOR HOME						
r0	Setpoint differential	0; 15 °C	2	2	2	2	2
r1	Minimum working setpoint	-99; r2 °C	0	-2	-5	-22	-20
r2	Maximum working setpoint	r1; 99 °C	10	10	10	-10	-10
r3	Setpoint change block	0; 1	0	0	0	0	0
r4	Temperature increase in energy saving	0; 99 °C	0	0	0	0	0
r5	Temperature decrease in Overcooling	0; 99 °C	3	3	3	3	3
r6	Duration of overcooling function	0; 240 '	60	60	60	60	60
r7	Diff min temp evap for defrost calculation	0; 99	10	10	10	10	10
	COMPRESSOR PROTECTION						
C0	Compressor delay at start-up	0; 240 '	0	0	0	0	0
C1	On-on compressor delay	0; 240 '	0	0	0	0	0
C2	Off-on compressor delay	0; 240 '	5	5	5	5	5
C3	Compressor on minimum delay	0; 240 "	0	0	0	0	0
C4	Probe off fault time	0; 240 '	10	10	10	10	10
C5	Probe on fault time	0; 240 '	10	10	10	10	10
C6	Condenser probe alarm temperature	0; 200 °C	60	60	60	60	60
C7	Cond probe temperature for compressor block	0; 200 °C	65	65	65	65	65
C8	Locked compr alarm delay	0; 15 '	1	1	1	1	1
C10	Compressor on hours for maintenance request	0; 9999 h	0	0	0	0	0
	DEFROST REGULATIONS						
d0	Defrost interval	0; 99 h	8	8	6	6	6
d1	Type of defrost	0;1;2	0	0	1	0	0
d2	Defrost end temperature	-99; 99 °C	8	8	8	8	8
d3	Max defrost duration	0; 99 '	30	30	30	30	30
d4	Defrost at start-up	0; 1	0	0	0	0	0
d5	Defrost delay at start-up	0; 99 '	0	0	0	0	0
d6	Temperature displayed during defrost	0; 1	1	1	1	1	1
d7	Dripping duration	0; 15 '	2	2	2	2	2
d8	Defrost interval type	0;1;2;3;4	0	0	0	0	0
d9	Max evap temperature for defrost interval count	-99; 99 °C	0	0	0	0	0
d11	Alarm for maximum defrost duration time	0; 1	0	0	0	0	0
d15	Minimum duration compr on for hot gas defrost on	0; 99 '	0	0	0	0	0
d16	Pre-dripping time with comp off and defrost on	1; 99'	0	0	0	0	0
d17	Num of evaporator temperat values for adaptive defrost	1; 10 °C	1	1	1	1	1
d18	Additive defrost duration	0; 3000 '	40'	40'	40'	40'	40'
d19	Evaporat temperature for on adaptive defrost	0; 40°C	3	3	3	3	3
d20	Duration of compr start-up for defrost activation	0; 500'	180'	180'	180'	180'	180'
d21	Compr min start-up duration and instrument acc for defrost	0; 500'	200'	200'	200'	200'	200'
d22	Min evap temp for defrost activat count	0; 10 °C	2	2	2	2	2
d23	Increment in energy saving for defrost count	0; 10 °C	1	1	1	1	1
	TEMPERATURE ALARMS						
A0	Associated temperature for min alarm	0; 1; 2	0	0	0	0	0
A1	Minimum temperature alarm	-99; 99 °C	-10	-10	-10	-10	-10
A2	Minimum alarm type	0; 1; 2	1	1	1	1	1
A4	Max temperature alarm	-99; 99 °C	10	10	10	10	10
A5	Maximum alarm type	0; 1; 2	1	1	1	1	1
A6	Maximum alarm delay at start up	0; 240 '	120	120	120	120	120
A7	Temperature alarm delay	0; 240 '	30	30	30	30	30
A8	Temperature alarm delay for defrost end	0; 240 '	60	60	60	60	60

A9	Temperature alarm delay for micro door off	0; 240 '	60	60	60	60	60
A10	Duration of power-off for alarm activation	0; 240 '	60	60	60	60	60
A11	Alarm parameters differential	0; 15 °C	2	2	2	2	2
A12	PF alarm signal for power off	0; 1; 2	2	2	2	2	2
EVAPORATOR FAN							
F0	Evap on fan	0;1;2;3;4;5	5	5	5	5	5
F1	Evaporator temperature	-99; 99 °C	40	40	40	40	40
F2	Fans in defrost	0; 1; 2	0	0	0	0	0
F3	Fans delay time	0; 15 '	2	2	2	2	2
F4	Off fan duration for low humidity and compr off	0; 240 "	0	0	0	0	0
F5	On fan duration for low humidity and compr off	0; 240 "	0	0	0	0	0
F6	Low or high humidity fan operation	0; 1	1	1	1	1	1
F7	Evap temp relative to set point for fan off	-99; 99 °C	-50	-50	-50	-50	-50
F8	Evaporator temperature differential	0; 15 °C	2	2	2	2	2
F9	Delay of shut down of fan only F0=2-4-5	0; 240 "	0	0	0	0	0
F11	Condenser temp for condenser fan on	0; 99 °C	0	0	0	0	0
F12	Condenser fan off delay	0; 240 "	0	0	0	0	0
F13	Evap fan off duration for Energy Saving	0; 240 '	0	0	0	0	0
F14	Evap fan on duration for Energy Saving	0; 240 '	0	0	0	0	0
DIGITAL INPUTS							
i0	On off micro door	0;...;5	5	5	5	5	5
i1	Micro door NA-NC contact	0; 1	0	0	0	0	0
i2	Micro door on alarm delay	-1; 120 '	30	30	30	30	30
i3	Micro activation max delay	-1; 120 '	15	15	15	15	15
i4	Micro alarm storage	0; 1	1	1	1	1	1
i5	Multifunction 4 input activation effect	0;...;6	6	6	6	6	6
i6	Multifunction input contact type	0; 1	0 (n2)	0 (n2)	0 (n2)	0 (n2)	0 (n2)
i7	Multifunction on alarm delay	0; 120 '	0	0	0	0	0
i8	Number of multiple alarms for alarm pressure switch	0; 15	0	0	0	0	0
i9	Multifunction alarms reset time	1; 999 '	1	1	1	1	1
i10	Time for micro reset for Energy Saving activation	0; 999 '	0	0	0	0	0
i11	Minimum duration of micro activation for exclusion of evap temp value to calculate adaptive defrost	0; 240'	0	0	0	0	0
i12	Minimum duration of micro activation for exclus of evap temp value from adaptive defrost calculation	0; 240'	60'	60'	60'	60'	60'
i13	Number of micro door activations for defrost on	0; 240'	0'	0'	0'	0'	0'
i14	Min activation duration ing micro door for defrost on	0; 240'	0'	0'	0'	0'	0'
DIGITAL OUTPUTS							
u1	Utility of fourth relay	0;...;6	0	0	0	0	0
u2	Activation of on-off cell light when instrument off	0; 1	0	0	0	0	0
u4	Off alarm activation	0; 1	1	1	1	1	1
u5	Cell temperature for heaters off	-99; 99 °C	-1				
u6	Duration of anti-fog heaters start-up	1; 120 '	5	5	5	5	5
u7	Cell temperature for evaporator valve off	0; 99 °C	2	2	2	2	2
u8	Evaporator valve contact type	0; 1	0	0	0	0	0
u9	Buzzer activation	0; 1	1	1	1	1	1
u11	Utility managed by 5 output	0;...;6	3	3	3	3	3
ENERGY SAVING IN REAL TIME							
HE1	Energy Saving activation time in real time	00; 24h	0	0	0	0	0
HE2	Energy Saving activation duration in real time	00; 24h	0	0	0	0	0
DEFROST IN REAL TIME							
Hd1	First defrost activation real time	00; 24h	----	----	----	----	----
Hd2	Second defrost activation real time	00; 24h	----	----	----	----	----
Hd3	Third defrost activation real time	00; 24h	----	----	----	----	----
Hd4	Fourth defrost activation real time	00; 24h	----	----	----	----	----
Hd5	Fifth defrost activation real time	00; 24h	----	----	----	----	----
Hd6	Sixth defrost activation real time	00; 24h	----	----	----	----	----
SERIAL NETWORK COMMUNICATION							
La	Instrument address	1; 247	247	247	247	247	247
Lb	Communication bit	0; 1; 2; 3	2	2	2	2	2
Lp	Parity	0; 1; 2	2	2	2	2	2

Notes: n1 = with remote unit the P4 value will be 0
n2 = For GREEN models, the value i6 will be 1

Parameters Table of PASTRY - ICE Cabinets

Par.	Description	Range	SET VALUES		
			TNBV	BTV	BT-ST
SP	Set point temperature	r1;r2 °C	0	-25	-25
	MEASURING INPUTS				
CA1	Cell probe offset	-25; 25 °C	0	0	0
CA2	Evaporator probe offset	-25; 25 °C	0	0	0
CA3	Auxiliary probe offset	-25; 25 °C	0	0	0
P1	Decimal point	0; 1	1	1	1
P2	Units of temperature measurement	0; 1	0	0	0
P3	Evaporator probe function	0; 1; 2	1	1	0
P4	Activation of condenser probe	0; 1	1(n1)	1(n1)	1(n1)
P8	Temperature variation display delay	0; 250 d"	0	0	0
	REGULATOR HOME				
r0	Setpoint differential	0; 15 °C	2	2	2
r1	Minimum working setpoint	-99; r2 °C	-2	-25	-25
r2	Maximum working setpoint	r1; 99 °C	10	-10	-10
r3	Setpoint change block	0; 1	0	0	0
r4	Temperature increase in energy saving	0; 99 °C	0	0	0
r5	Temperature decrease in Overcooling	0; 99 °C	3	3	3
r6	Duration of overcooling function	0; 240 '	60	60	60
r7	Diff min temp evap for defrost calculation	0; 99	10	10	10
	COMPRESSOR PROTECTION				
C0	Compressor delay at start-up	0; 240 '	0	0	0
C1	On-on compressor delay	0; 240 '	0	0	0
C2	Off-on compressor delay	0; 240 '	5	5	5
C3	Compressor on minimum delay	0; 240 "	0	0	0
C4	Probe off fault time	0; 240 '	10	10	10
C5	Probe on fault time	0; 240 '	10	10	10
C6	Condenser probe alarm temperature	0; 200 °C	60	60	60
C7	Cond probe temperature for compressor block	0; 200 °C	65	65	65
C8	Locked compr alarm delay	0; 15 '	1	1	1
C10	Compressor on hours for maintenance request	0; 9999 h	0	0	0
	DEFROST REGULATIONS				
d0	Defrost interval	0; 99 h	8	6	0
d1	Type of defrost	0;1;2	0	0	0
d2	Defrost end temperature	-99; 99 °C	8	8	8
d3	Max defrost duration	0; 99 '	30	30	30
d4	Defrost at start-up	0; 1	0	0	0
d5	Defrost delay at start-up	0; 99 '	0	0	0
d6	Temperature displayed during defrost	0; 1	1	1	1
d7	Dripping duration	0; 15 '	2	2	2
d8	Defrost interval type	0 ;1 ;2 ;3 ;4	0	0	0
d9	Max evap temperature for defrost interval count	-99; 99 °C	0	0	0
d11	Alarm for maximum defrost duration time	0; 1	0	0	0
d15	Minimum duration compr on for hot gas defrost on	0; 99 '	0	0	0
d16	Pre-dripping time with comp off and defrost on	1; 99'	0	0	0
d17	Num of evaporator temperat values for adaptive defrost	1; 10 °C	1	1	1
d18	Additive defrost duration	0; 3000 '	40'	40'	40'
d19	Evaporat temperature for on adaptive defrost	0; 40°C	3	3	3
d20	Duration of compr start-up for defrost activation	0; 500'	180'	180'	180'
d21	Compr min start-up duration and instrument acc for defrost	0; 500'	200'	200'	200'
d22	Min evap temp for defrost activat count	0; 10 °C	2	2	2
d23	Increm in energy saving for defrost count	0; 10 °C	1	1	1
	TEMPERATURE ALARMS				
A0	Associated temperature for min alarm	0; 1; 2	0	0	0
A1	Minimum temperature alarm	-99; 99 °C	-10	-10	-10
A2	Minimum alarm type	0; 1; 2	1	1	1
A4	Max temperature alarm	-99; 99 °C	10	10	10
A5	Maximum alarm type	0; 1; 2	1	1	1
A6	Maximum alarm delay at start up	0; 240 '	120	120	120
A7	Temperature alarm delay	0; 240 '	30	30	30
A8	Temperature alarm delay for defrost end	0; 240 '	60	60	60
A9	Temperature alarm delay for micro door off	0; 240 '	60	60	60
A10	Duration of power-off for alarm activation	0; 240 '	60	60	60

A11	Alarm parameters differential	0; 15 °C	2	2	2
A12	PF alarm signal for power off	0; 1; 2	2	2	2
EVAPORATOR FAN					
F0	Evap on fan	0;1;2;3;4;5	5	5	5
F1	Evaporator temperature	-99; 99 °C	40	40	40
F2	Fans in defrost	0; 1; 2	0	0	0
F3	Fans delay time	0; 15 '	2	2	2
F4	Off fan duration for low humidity and compr off	0; 240 "	0	0	0
F5	On fan duration for low humidity and compr off	0; 240 "	0	0	0
F6	Low or high humidity fan operation	0; 1	1	1	1
F7	Evap temp relative to set point for fan off	-99; 99 °C	-50	-50	-50
F8	Evaporator temperature differential	0; 15 °C	2	2	2
F9	Delay of shut down of fan only F0=2-4-5	0; 240 "	0	0	0
F11	Condenser temp for condenser fan on	0; 99 °C	0	0	0
F12	Condenser fan off delay	0; 240 "	0	0	0
F13	Evap fan off duration for Energy Saving	0; 240 '	0	0	0
F14	Evap fan on duration for Energy Saving	0; 240 '	0	0	0
DIGITAL INPUTS					
i0	On off micro door	0;...;5	5	5	5
i1	Micro door NA-NC contact	0; 1	0	0	0
i2	Micro door on alarm delay	-1; 120 '	30	30	30
i3	Micro activation max delay	-1; 120 '	15	15	15
i4	Micro alarm storage	0; 1	1	1	1
i5	Multifunction 4 input activation effect	0;...;6	6	6	6
i6	Multifunction input contact type	0; 1	0	0	0
i7	Multifunction on alarm delay	0; 120 '	0	0	0
i8	Number of multiple alarms for alarm pressure switch	0; 15	0	0	0
i9	Multifunction alarms reset time	1; 999 '	1	1	1
i10	Time for micro reset for Energy Saving activation	0; 999 '	0	0	0
i11	Minimum duration of micro activation for exclusion of evap temp value to calculate adaptive defrost	0; 240'	0	0	0
i12	Minimum duration of micro activation for exclus of evap temp value from adaptive defrost calculation	0; 240'	60'	60'	60'
i13	Number of micro door activations for defrost on	0; 240'	0'	0'	0'
i14	Min activation duration ing micro door for defrost on	0; 240'	0'	0'	0'
DIGITAL OUTPUTS					
u1	Utility of fourth relay	0;...;6	0	0	0
u2	Activation of on-off cell light when instrument off	0; 1	0	0	0
u4	Off alarm activation	0; 1	1	1	1
u5	Cell temperature for heaters off	-99; 99 °C	-1	-1	-1
u6	Duration of anti-fog heaters start-up	1; 120 '	5	5	5
u7	Cell temperature for evaporator valve off	0; 99 °C	2	2	2
u8	Evaporator valve contact type	0; 1	0	0	0
u9	Buzzer activation	0; 1	1	1	1
u11	Utility managed by 5 output	0;...;6	3	3	3
ENERGY SAVING IN REAL TIME					
HE1	Energy Saving activation time in real time	00; 24h	00	00	00
HE2	Energy Saving activation duration in real time	00; 24h	00	00	00
DEFROST IN REAL TIME					
Hd1	First defrost activation real time	00; 24h	----	----	----
Hd2	Second defrost activation real time	00; 24h	----	----	----
Hd3	Third defrost activation real time	00; 24h	----	----	----
Hd4	Fourth defrost activation real time	00; 24h	----	----	----
Hd5	Fifth defrost activation real time	00; 24h	----	----	----
Hd6	Sixth defrost activation real time	00; 24h	----	----	----
SERIAL NETWORK COMMUNICATION					
La	Instrument address	1; 247	247	247	247
Lb	Communication bit	0; 1; 2; 3	2	2	2
Lp	Parity	0; 1; 2	2	2	2

Notes: n1= with remote unit the P4 value will be 0

Rev.10/2013

Parameters Table of ROLL-IN / ROLL-THROUGH Cabinets

Notes: n1= with remote unit the P4 value will be 0 - Rev.07/2013

Par.	Description	Range	SET VALUES
			TNBV
SP	Set point temperature	r1;r2 °C	-2
	MEASURING INPUTS		
CA1	Cell probe offset	-25; 25 °C	0
CA2	Evaporator probe offset	-25; 25 °C	0
CA3	Auxiliary probe offset	-25; 25 °C	0
P1	Decimal point	0; 1	1
P2	Units of temperature measurement	0; 1	0
P3	Evaporator probe function	0; 1; 2	1
P4	Activation of condenser probe	0; 1	1
P8	Temperature variation display delay	0; 250 d"	0
	REGULATOR HOME		
r0	Setpoint differential	0; 15 °C	2
r1	Minimum working setpoint	-99; r2 °C	-2
r2	Maximum working setpoint	r1; 99 °C	10
r3	Setpoint change block	0; 1	0
r4	Temperature increase in energy saving	0; 99 °C	0
r5	Temperature decrease in Overcooling	0; 99 °C	3
r6	Duration of overcooling function	0; 240 '	60
r7	Diff min temp evap for defrost calculation	0; 99	10
	COMPRESSOR PROTECTION		
C0	Compressor delay at start-up	0; 240 '	0
C1	On-on compressor delay	0; 240 '	0
C2	Off-on compressor delay	0; 240 '	5
C3	Compressor on minimum delay	0; 240 "	0
C4	Probe off fault time	0; 240 '	10
C5	Probe on fault time	0; 240 '	10
C6	Condenser probe alarm temperature	0; 200 °C	60
C7	Cond probe temperature for compressor block	0; 200 °C	65
C8	Locked compr alarm delay	0; 15 '	1
C10	Compressor on hours for maintenance request	0; 9999 h	0
	DEFROST REGULATIONS		
d0	Defrost interval	0; 99 h	8
d1	Type of defrost	0;1;2	0
d2	Defrost end temperature	-99; 99 °C	8
d3	Max defrost duration	0; 99 '	30
d4	Defrost at start-up	0; 1	0
d5	Defrost delay at start-up	0; 99 '	0
d6	Temperature displayed during defrost	0; 1	1
d7	Dripping duration	0; 15 '	2
d8	Defrost interval type	0 ;1 ;2 ;3 ;4	0
d9	Max evap temperature for defrost interval count	-99; 99 °C	0
d11	Alarm for maximum defrost duration time	0; 1	0
d15	Minimum duration compr on for hot gas defrost on	0; 99 '	0
d16	Pre-dripping time with comp off and defrost on	1; 99'	0
d17	Num of evaporator temperat values for adaptive defrost	1; 10 °C	1
d18	Additive defrost duration	0; 3000 '	40'
d19	Evaporat temperature for on adaptive defrost	0; 40°C	3
d20	Duration of compr start-up for defrost activation	0; 500'	180'
d21	Compr min start-up duration and instrument acc for defrost	0; 500'	200'
d22	Min evap temp for defrost activat count	0; 10 °C	2
d23	Increment in energy saving for defrost count	0; 10 °C	1
	TEMPERATURE ALARMS		
A0	Associated temperature for min alarm	0; 1; 2	0
A1	Minimum temperature alarm	-99; 99 °C	-10
A2	Minimum alarm type	0; 1; 2	1
A4	Max temperature alarm	-99; 99 °C	10
A5	Maximum alarm type	0; 1; 2	1
A6	Maximum alarm delay at start up	0; 240 '	120
A7	Temperature alarm delay	0; 240 '	30
A8	Temperature alarm delay for defrost end	0; 240 '	60
A9	Temperature alarm delay for micro door off	0; 240 '	60